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1984

# DRG

## ANNUAL REPORT



DIVISION  
OF  
RESEARCH  
GRANTS

NATIONAL  
INSTITUTES  
OF  
HEALTH

FY 1984





# DRG

## ANNUAL REPORT

*Division of Research Grants*

Receipt, Processing,  
Referral of Grant  
Applications

Scientific Merit  
Review of Grant  
Applications



Information  
Management

Fiscal Year 1984

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1984

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# HIGHLIGHTS

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- Division again managed heavy workloads:
  - Over 28,500 competing applications and 19,000 noncompeting applications received, processed, and referred by the Referral Section of the Referral and Review Branch.
  - More than 21,500 applications reviewed for scientific merit by study sections in the Referral and Review Branch.
  - Approximately 49,000 information requests managed by the Statistics and Analysis Branch using the IMPAC and CRISP computer systems.
  - Over 120,000 grant application kits and other instructional materials mailed to applicants by the Administrative Branch.
- Continuing progress made in the development and implementation of a data communication network using remote terminals in the various NIH extramural program offices. A significant achievement is the preparation of computer-generated summary statements.
- Statistical data and evaluation studies on various topics pertaining to the NIH extramural programs prepared for the NIH and scientific community by the Statistics and Analysis and Research Analysis and Evaluation Branches.
- Division actively involved in the December 12, 1983, meeting involving the chairpersons of NIH scientific review groups and key representatives of the NIH administration. Proceedings from these meetings published and distributed.
- Publications revised and updated, including Handbook for Grants Assistants, Research Awards Index, Intramural Research Index, "Brown Book" series on NIH extramural awards, NIH Extramural Trends: 1972-1983 with accompanying slides, NIH Grants and Awards, and NIH Peer Review of Research Grant Applications.
- NIH Programs of Special Interest to Minorities and Women and Information From the NIH on Grants and Contracts published.





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# OFFICE OF THE DIRECTOR

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Dr. Carl D. Douglass, Director, spoke about the NIH extramural program and peer review process at the Grants Associate Seminar in Bethesda, Maryland, on October 3, 1983; at the National Affairs Committee, American Association for Dental Research, in Washington, D.C., on October 19, 1983; at the IRG Chairpersons Meeting in Bethesda, Maryland, on December 12, 1983; at the Association of American Medical Colleges (Ad Hoc Group for Medical Research Funding) in Washington, D.C., on December 21, 1983; at North Carolina State University, Raleigh, North Carolina, on March 29, 1984; and at the Association of Independent Research Institutes in Saranac Lake, New York, on September 21, 1984.

During the past fiscal year, Dr. Douglass was also a member of the NIH Resource Allocation Group, the Department of Agriculture Competitive Research Grants Program Policy Advisory Board, the NIH Administrative Data Base Steering Committee, the NIH Long-Range Facilities Planning Group, the NIH Committee on Convent Utilization, and the NIH Search Committee for the Director of the Office for Protection from Research Risks.

Dr. S. Stephen Schiaffino, Deputy Director, gave a presentation on the development of grant applications for postdoctoral students at the Roche Institute, Nutley, New Jersey, on March 22, 1984. Dr. Schiaffino also presented seminars on the administration of NIH grants at a Grants Associates meeting at the NIH, on October 3, 1983; at two Extramural Associates meetings at the NIH, on January 24 and July 24, 1984; at

Baylor College of Medicine, Houston, Texas, on April 16-17, 1984; at a National Council of University Research Administrators Meeting held at Lake Tahoe, Nevada, on June 9-13, 1984; and at the University of Minnesota, Bloomington, Minnesota, on September 10-12, 1984.

Throughout the year, Dr. Schiaffino has been actively involved in continuing and expanding the use of word processors and computer systems in the receipt, referral, and review process as well as in committee management activities. He has been a member of the following committees: Extramural Program Management Committee, including the Subcommittees on the Agenda, Appeals, and Staff Development; Bureau, Institute, or Division International Representatives Committees; Fogarty International Center Conference Review Group; NIH Nursing Research Task Force; Research Career Development Award Project Oversight Committees--Program Information and Policy Committee; Small Business Innovation Research (SBIR) Evaluation Oversight Committee; Reform 88--Subcommittee on Automated Data Processing Applications (for Personnel Offices, NIH); and Public Health Service (PHS) Alternate to the Department of Health and Human Services (DHHS) Executive Development Board.

The Division continued to encourage staff participation in some form of formal training. During the 1984 fiscal year, 222 DRG employees enrolled in and completed job-related training courses, 10 of them through the Upward Mobility Program.

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## ***Office of the Director***

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The Division's Equal Employment Opportunity (EEO) program, Women's Advisory Committee (WAC) representatives, Handicapped Employees Committee (HEP) representatives, and Employee Advisory Committee (EAC) continued to promote equal opportunities in employment for all employees, without discrimination because of race, color, religion, sex, national origin, or mental or physical handicap; to maintain the open lines of communication between DRG management and staff; and to provide general information on training, career development, upward mobility, health issues, and technological changes.

The highly successful Career Search Program is now in its second year, with 23 participants earning Certificates of Completion for on-the-job work experiences in offices outside of their normal work area.

On February 29, 1984, the DRG EEO Office coordinated a Black History Program for NIH employees at the Westwood Building. All NIH Institutes in the Westwood Building participated in this program, which was well received and attended. Plans are being formulated to have other cultural programs involving participation from all Institutes in at the Westwood Building.

The EAC continued its seminar series on issues of interest to DRG employees with the following events: "Health Issues of the 80's for Men and Women," by Dr. Antonia Novello, DRG Executive Secretary, February 3, 1984; and "What Every Parent should Know about Teenage Drug Abuse," by Dr. Joseph Novello, Child Psychiatrist, March 28, 1984.

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# EXTRAMURAL ASSOCIATES PROGRAM

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## PROGRAM HIGHLIGHTS

Twelve Extramural Associates from black, minority, and women's institutions were in residence and completed the Program during the current fiscal year. Including the Associates who completed residencies during FY 1984, the total since the Program began in 1978 is 69, representing 26 states and Puerto Rico.

Orientation and weekly seminars for the two groups of FY 1984 Associates included 159 lectures and conferences totaling 414 seminar hours. Seminars covered issues pertinent to the NIH grant and contract processes, Institute intra- and extramural activities, PHS program concerns, and research programs of other Federal agencies.

Each group of Associates participated in a 5-day Congressional Operations Institute offered by the Government Affairs Institute. In addition, each group made site visits to: Poolesville Animal Facility, National Institute on Aging's Baltimore gerontology facility, National Institute of Environmental Health Sciences, Environmental Protection Agency, and Army Research Office, Department of Defense. (The last three were at Research Triangle Park in North Carolina.)

Extramural Associates and their advisors planned and carried out 12 home institution site visits. These were with presidents, administrators, faculty, and students for the purpose of encouraging increased and expanded utilization of the Associates' newly acquired expertise upon their return to their institutions. The visits also

included review of the institutions' research capabilities and interests among faculty in order to guide and advise the Associates.

The second national Extramural Associates Program Workshop, jointly funded by participating institutions and the NIH, was held on June 25-27, 1984, on the NIH campus. Attendance exceeded 150 persons, including 108 presidents of institutions, Associates, senior administrators, advisors, Extramural Associates Board members, and invited guests.

Under the theme "Entering the Age of Science and Technology," the workshop included eight work groups, led by NIH staff members, discussing (1) Extramural Associates institution commitment, (2) resources and faculty, (3) pursuit of funding opportunities, and (4) methods and procedures for expanding research activities. Each work group presented a report of proposed strategies to the general assembly. NIH speakers included: Dr. James B. Wyngaarden, Director; Dr. Thomas E. Malone, Deputy Director; Dr. William F. Raub, Deputy Director for Extramural Research and Training; Dr. Philip S. Chen, Jr., Associate Director for Intramural Affairs; Dr. John W. Diggs, Director, Extramural Activities Program, NIAID; Dr. Catherine Henley, Review and Special Projects Officer, Extramural and Collaborative Programs, NEI; Mrs. Barbara S. Bynum, Director, Division of Extramural Activities, NCI; and intramural scientists at the Clinical Center.

The Extramural Associates Program

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## ***Extramural Associates Program***

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Advisory Board met several times during Fiscal Year 1984, and provided guidelines for the implementation of the 1982 Extramural Associates Workshop recommendations. These include: a visit to the NIH by the president or appropriate designated official during the Associate's residency; assessment of the institution's progress; greater emphasis on hands-on experience in the review process; and the Extramural Associates Bulletin serving as a focal point for "success stories" and approaches used in attaining institutions' objectives.

During the past fiscal year, the Program Director visited 14 colleges and universities in Maryland, Georgia, Florida, Kentucky, Ohio, and Pennsylvania to discuss with presidents, deans and faculty the requirements and objectives of the Program. This approach continues to be cost-effective. Over 60% of the candidates for the 1984-85 program year have been selected as the direct result of these visits.

A communications network has been established through the periodic publication of the NIH Extramural Associates Bulletin to facilitate and encourage the exchange of information, the sharing of experiences, the discussion of common problems, and the sharing of successful approaches in developing and increasing research activities.

Publicity was carried out through articles in the NIH Record and exhibits displayed at conferences of the National Council of University Research Administrators, the Minority

Access to Research Careers Conference, the Minority Biomedical Research Support Symposium, the National Association for Equal Opportunity in Higher Education, and the North Carolina A&T State University Annual Symposium.

Announcements for the 1985-86 program year have been mailed to over 300 administrators and scientists in black, minority, and women's colleges and universities.

### **PROGRAM EFFECTIVENESS**

Extramural Associates continue to assist their respective institutions by exercising a variety of responsibilities, including encouraging more research among faculty and the preparation and submission of research proposals. The following Extramural Associates are representative of individuals who have assumed higher positions or have taken on additional responsibilities since completing residencies at NIH:

- Dr. Mary F. Finlay  
Benedict College  
Columbia, South Carolina  
Director of Research in Science
- Dr. Leroy Davis  
South Carolina State College  
Orangeburg, South Carolina  
Associate Professor  
Grantee of the South Carolina Commission of Higher Education for Talented/Gifted Students in Computer Science and Biology
- Dr. Perry V. Mack  
Bennett College

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## *Extramural Associates Program*

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Greensboro, North Carolina  
Director, Kenan Science Faculty and  
Curriculum Development Project

- Dr. Annette Bower  
Mount Saint Mary's College  
Los Angeles, California  
Director, Office of Sponsored Research
- Dr. John T. Hayes  
Paine College  
Augusta, Georgia  
Director of Pre-professional Science  
Programs, Sabbatical to study com-  
puter applications in higher educa-  
tion as a means of implementing the  
expansion and development of science  
and research
- Dr. Willie Washington  
Central State University  
Wilberforce, Ohio  
Director, Office of Faculty Develop-  
ment and Research

The Extramural Associates Program has developed high national visibility and is having a significant positive impact upon the image and reputation of the NIH among institutions across the nation that contribute most to the increase of blacks, minorities, and women in science and research. It is the intent of the Program to sustain and strengthen this trend.



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## **GRANTS ASSOCIATES PROGRAM**

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The objective of this program is to train independent, mid-career health research scientists in science administration to fill immediately health scientist administrator positions and to fill ultimately executive positions within the PHS. Overall, the program has been successful in meeting this objective, as evidenced by the positions held by the graduates of the Program since its inception in 1962. Further, over the past three years, despite hiring freezes, budget constraints and other limitations, GAs had no lack of job offers (one having had as many as six).

The 22nd year of the Grants Associates Program had on duty nine Grants Associates. Four (Drs. Wayne Wray, Caroline Holloway, Agnes Donahue, and Cheryl Corsaro) entered on duty this fiscal year, and the other five (Drs. Sheila Taube, Ai-Lien Wu, Roger Aamodt, Diane Lucas, and Yung-Pin Liu), already on board, graduated this fiscal year. All five took NIH positions. This results in a total of 156 graduates of the GA Program: 29 (18%) females, an increase of 3% over last year; 131 (82%) males; and 27 (17%) minorities, an increase of 1% over last year. Sixty-five percent of these graduates are with the NIH, 8% with other PHS components, and another 7% with other parts of the Federal government. A study revealed that the PHS receives eight times the number of person years of service from GAs in return for their one person year of training, and most of those returned years are with the NIH.

The Grants Associates Seminar Series still remains extremely popular, with

the number of participants increasing steadily over the years. This year, 29 individuals were selected for participation in the Series. That figure is apart from the Grants Associates themselves and the NIH, DHHS, and Presidential Management Interns.

During the fiscal year, 196 seminar hours of training were provided. This increase in seminar hours was due in part to requests by the participants themselves and in part to an intended expansion of the Series to accommodate the needs of the variety of individuals in it this year. One expansion was a full-day session on the role of DRG; another was a seminar on the perspective of a university in the current climate of budget constraints, indirect costs, animal and human welfare issues, etc. Yet another was the role of private foundations in research. The group itself requested some elective seminars for which they undertook part responsibility and which they chaired. These included the National Center for Health Statistics, an expanded discussion of the activities of the Lister Hill National Center for Biomedical Communications, and the issue and management of program overlap within NIH and among agencies. With the expanded program, there was an average of 146 training hours per GA exclusive of the Seminar Series. Even at that, the total amount of time in such formal training was only 16% of the GA year. On-the-job assignments remain the primary form of training activity, consuming 74% of the GA year.

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## **Grants Associates Program**

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This fiscal year saw the appointments of Dr. Luz Froehlich, Deputy Director, Extramural Activities Program, NIAID, and Dr. Elke Jordan, Associate Director for Program Activities, NIGMS, as Chairperson and Vice-Chairperson respectively of the Grants Associates Board. No new Board appointments were made this fiscal year, because the Program was in transition and because it appeared that this transitory state would be clarified by the end of the fiscal year. Board members agreed to extend their terms by one year, with the approval of the Deputy Director for Extramural Research and Training, so there would be continuity on the Board during the fiscal year.

This fiscal year ends the organizational location of the GA Program in DRG where it has been since its inception in 1962. Effective October 1984, the GA Program will be housed in the Office of Extramural Research and Training, Office of the Director. This organizational transfer provides more visibility for the GA Program and reduces the administrative and financial burden on DRG. With the appointment of Dr. George Galasso to the position of Associate Director for Extramural Affairs, the GA Program and the GA Board report directly to him. Dr. Galasso gives final approval for all GA Board recommendations.

As noted in the previous annual report, the GA Program has undergone several forms of evaluation, from an assessment by the GA Board to a more major, in-depth evaluation by the Career Development Program Evaluation Committee. The GA Board spent a full day on retreat to discuss training recommendations and

recommendations made by this committee. As a result of their discussions, the Board supported the above-mentioned organizational transfer, but felt that the traditional GA Program should be retained. An attempt is being made to return the Program to its original strength of 10 rather than the current 5 slots. In addition, other forms of training were recommended by the Board and approved by the Associate Director for Extramural Affairs. These new training opportunities, which will be offered under the supervision and guidance of the Grants Associates Board, affect the health scientist administrator trainee, new hires, and the professional development assignee. These are expected to be implemented at the beginning of the fiscal year and will be coordinated by the Grants Associates Office. In addition, the GA office will be conducting, twice a year, a two day orientation: Fundamentals of Extramural Activities, which was previously undertaken by the STEP Committee as STEP Module I - Introduction to Extramural Programs. The basic intent of these activities is to provide Institutes with access to highly qualified scientists in the needed area of expertise while at the same time to offer these individuals a minimum of uniform core training as health scientist administrators. This should yield a larger cadre of trained individuals to perform effectively and efficiently the needed variety of science administration responsibilities.



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## OFFICE OF GRANTS INQUIRIES

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During Fiscal Year 1983, the Office of Grants Inquiries (OGI) continued to serve as a dissemination point for information about the extramural activities of the NIH. Staff provided information and publications concerned with NIH support mechanisms, peer review procedures, grantee support data, assurance and compliance forms, application procedures, and policies governing the NIH extramural programs. Inquiries were by telephone, letters, and walk-ins, and included grantees, potential applicants from the research community, the general public, the news media, the Congress, other Federal agencies, students, foreign visitors, and health care professionals.

In April, the new DRG exhibit was displayed at the Twelfth Annual Minority Biomedical Research Support Symposium held in Washington, D.C. Staff also participated in the Symposium by providing appropriate information materials, by representing the Division at the Symposium, and by responding to questions from participants about the NIH extramural activities. Response to the exhibit was very positive.

OGI staff produced and distributed the following publications:

DRG Annual Report

DRG Organization and Functions  
(Revision)

Information from the NIH on Grants and Contracts

NIH Grants and Awards (Revision)

NIH Peer Review of Research Grant Applications (Revision)

NIH Programs of Special Interest to Minorities and Women

The Grants Associates Program  
(Revision).

Publications in progress include brochures describing the NIH peer review process used to evaluate grant applications submitted to the NIH for funding; presenting some helpful hints for grant applicants; and outlining the personnel and services of the Division.

OGI produced a number of articles for the NIH Record, an in-house newspaper, reporting on DRG-sponsored events, release of new and annual publications, peer review procedures, new appointments and awards, and the Grants Associates Program's 22nd anniversary.

The slide collection on peer review was moved to OGI from the Referral and Review Branch and was updated. It continues to be utilized by staff in their seminars and presentations both outside and inside NIH.

The Office continued to be responsible for coordinating and preparing special and annual reports. These include the DRG sections of the NIH

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## Office of Grants Inquiries

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Almanac, the NIH Scientific Directory and Annual Bibliography, the NIH Publications List, reports to the NIH on publication plans and expenditures, the annual communication plan, and reports to NIH on DRG activities under the Freedom of Information and Privacy Acts.

OGI staff worked with the Office of Public Information, OD, to coordinate information materials for the NIH exhibit displayed at the Federation of American Societies for Experimental Biology meeting in May. A special publication request list was furnished and publication materials were mailed out by staff in response to these requests. The Office also mailed out materials for approximately 15 other Institute or DRG meetings.

Utilizing the new IBM Displaywriter technology, office procedures were streamlined and defined, a publications inventory system was implemented, and form letters were developed for use in responding to routine letters. Other streamlining measures are planned to better utilize space and to further reduce paper files.

Staff implemented the new NIH Freedom of Information Tracking and Reporting System in the Office in June. This system will eliminate duplicate or repetitive requests, provide for better communications, better meet annual reporting requirements, and provide status reports on pending FOI requests.

OGI continued to serve as the central information source for the small business community by providing infor-

mation about receipt dates, application procedures, review procedures, and statistical data on SBIR funded projects. In June, office staff coordinated the updating of the SBIR address file used for mailing SBIR Omnibus Solicitations to the small business research community. Following this update, staff continued to input new names and addresses into the SBIR address working file and mailed out SBIR Solicitations as requested.

To better inform potential applicants about the SBIR Program and NIH peer review procedures, two new publications were produced and are being mailed out with the SBIR Omnibus Solicitation. These are: Abstracts of SBIR Phase I Projects, Fiscal Year 1983, and Application and Review Procedures for the NIH SBIR Program.

The Office greatly expanded its collection of information materials available to the research community and the public. The following publications or articles were published in FY 1983, and are located in OGI for distribution:

### NIH Research and Research Related Manpower Development Programs

-- 4 part series of booklets on high school, college, post baccalaureate, and postdoctoral opportunities.

### NIH New Grants and Awards. Quarterly Listing

### NIH Research Grants, Fiscal Year 1983 Funds

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## Office of Grants Inquiries

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### NIH Research and Development Contracts, Fiscal Year 1983 Funds

### NIH Research Training, Construc- tion, and Medical Libraries, Fiscal Year 1983 Funds

### NIH Grants Policy Statement

### NIH Public Advisory Groups

### NIH Data Booklet

### Application and Review Proce- dures for the NIH SBIR Program, Donald G. Murphy and Donna J. Dean

### NIH Grant Applications for Clinical Research: Reasons for Poor Ratings or Disapproval, Janet Melel Cuca

### Schedule of NIH Conferences

### NIH Peer Review Notes

In addition to the above publications, OGI added to its collection of leaflets about new mechanisms announced in the NIH Guide Grants and Contracts. These announcements and guidelines are prepared and updated so as to alert the scientific community to funding opportunities for training and research. Feedback from the audience has been that these leaflets are very helpful to potential applicants as a guide to locating appropriate NIH program contacts.

Staff provided briefings and assistance to more than 300 visitors to OGI during FY 1983. Many of these vis-

itors are new applicants from small businesses and other for-profit organizations who are unfamiliar with the NIH support mechanisms and the peer review process, and require in-depth orientation. An updated slide-tape presentation, "How a Research Grant is Made," has proven useful as an aid in orientation presentations.

Several members of the OGI staff participated in training opportunities this year. Also one staff member and two former ones received awards for Sustained High Quality Work Performance. Another member of the staff was detailed to serve on the HHS Task Force on Health Problems of Blacks and Minorities.

### **GRAPHIC ARTS**

During FY 1983, the Visual Information Specialist participated in most of the Division's communications projects by providing art work and photographic services. Some of the visual aids provided were publications, covers, slides, photographs, posters, signs, and flyers.

The Specialist designed and prepared covers for the following publications: Schedule of NIH Conferences, NIH Peer Review Notes, Workshop on Metals in Medicine, The Grants Associates Program, CRISP System, IMPAC System, NIH Immunotoxicology Workshop, NIH Grants and Awards, DRG Organization and Functions, DRG Annual Report, and NIH Programs of Special Interest to Minorities and Women.

He assisted in updating the slide collection on peer review by providing

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## Office of Grants Inquiries

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graphic drawings and photographs and having slides made through the DRG Photography Section.

Approximately 800 certificates were prepared by the Specialist to use for presenting numerous awards to DRG staff and for recognizing the services of DRG Study Section members. He also provided photographic coverage for study sections and staff functions, and arranged for printing services.

He continued to operate a contract with a graphics firm to provide slides, prints, and other artwork for use by DRG staff in seminars and other presentations. The service also provided for typesetting a new folder on NIH Programs of Special Interest for Minorities and Women.

Another company contract coordinated by the Specialist provided fast, cost-effective service for slides. This service allowed the Specialist to input information for slides directly by computer for next day delivery.

The Specialist created and provided posters, signs, flyers, and photographs, for publicizing many functions and activities within DRG and NIH. These publicity efforts included:

- Flyers for use in the Staff Training in Extramural Program Forum Series;
- Posters for use in the NIH Combined Federal Campaign;
- Flyers for use in the Employee Advisory Committee-Sponsored Speaker Seminars;

- Flyers for use in the NIH Health Unit concerning different health issues;

- Flyers for use in staff retirements, awards, and other activities; and

- Photographs for use in NIH Record concerning staff activities.

The Specialist provided graphic expertise to many other NIH components, including the Immediate Office of the Director, the Division of Financial Management, the Office of Extramural Research and Training, and the Division of Grants and Contracts.

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# **ADMINISTRATIVE BRANCH**

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The Administrative Branch continued to provide the Division with administrative and financial management, including the budget and the Scientific Review and Evaluation Awards, travel, conference, and office services, property and supply control, and space planning and assignment; to maintain supplies of publications and application forms used in the PHS extramural programs; to be responsible for the efficient running of the components for effective coordination of procedures and services; and to maintain procedures for centralized distribution of application forms to the grantee institutions. The Branch also conducted or directed a number of studies involving several management activities, which may result in a reorganization with the application of new technology within the Division.

## **FINANCIAL MANAGEMENT SECTION**

This Section assisted in administering about \$22 million for the Division's operations (of which \$17 million was from the NIH Management Fund and reimbursement agreements with other agencies), supplemented by \$6 million from the Institutes for the support of the Scientific Review and Evaluation Awards granted to study section chairpersons. The Section monitored expenditures from these funds through a computer database system that also provides NIH management with monthly cost-analysis progress reports. Consultant costs were again paid almost entirely from the Scientific Review and Evaluation Awards, with consequent savings in both time and effort. The Section continued to report approximately 10,000 individual payments

made to 4,100 consultants who submitted 8,000 vouchers to the NIH-wide computer-based system for reporting consultants' incomes. In addition to the audit of the 8,000 consultants' vouchers, about 520 vouchers were audited by this Section for Division employees and others.

The Section prepared the Preliminary Estimate to HHS, the OMB Submission, and the Manpower Submission for the Fiscal Year 1984 President's Budget, and also furnished information for the Fiscal Year 1984 Mid-Year Review. Work has been started on the Fiscal Year 1986 Forward Plan. The Section continues to monitor the orderly flow of obligations and other aspects of budget execution as well as to respond to requests from the Division of Financial Management.

## **OFFICE SERVICES SECTION**

This Section continued to review and approve requests for supplies and equipment needed by the Division, to provide property and supply control, and to participate in space planning and assignment. The Section accomplished a number of physical moves and planned several others, including the accommodation of the needs of new study sections and the installation of additional IBM Displaywriters and laser printers, which is the second phase of upgrading the quality of study section paperflow in the Referral and Review Branch. The Section has also maintained the Division's mail room, and has been responsible for wide distribution of PHS and NIH extramural forms and publications. The Section continued to maintain

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## **Administrative Branch**

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liaison with other NIH service components for effective coordination of procedures and services, and to be responsible for supplying the control offices of the grantee institutions with application kits.

With the revision of the institutional training grant application, the Branch completed its efforts to convert all program application kits to a self-contained booklet format. As has previously been indicated, this reformatting has not only improved the appearance of the application kits, but has facilitated their processing by DRG staff, their distribution to applicants, and the completion of the forms by applicants.

The number of grant application kits assembled and handled averaged around 10,000 a month, and about 9,500 miscellaneous packages were mailed each month. The Mail Unit received and processed approximately 40,000 grant applications of all types, as well as a large volume of supporting documents, letters, and publications.

Extensive technical contributions were made by staff in the development of several new and revised forms.

Reference materials continue to be decentralized into two basic locations, one housing subject reference texts and the other major reference books such as Index Medicus and American Men and Women of Science. The Reference Committee continues to ensure the adequate provision of appropriate medical reference materials, and the Section remains extremely active in support of this activity.

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# REFERRAL AND REVIEW BRANCH

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Effective July 8, 1984, Dr. Mischa E. Friedman was officially appointed to the position of Chief of the Referral and Review Branch by the Secretary, Health and Human Services. Dr. Luis Angelone is Deputy Chief for Referral and Dr. Irving Simos is Deputy Chief for Review.

## REFERRAL ACTIVITIES

The Referral and Review Branch is responsible for receiving and processing grant applications submitted to the PHS as well as for assigning such applications to initial review groups for scientific merit review and to awarding organizations for second level review and possible funding.

The Branch processed for and assigned to PHS agencies 28,588 applications (Figure 1), which is an increase of 12 percent from that of Fiscal Year 1983. More than 85 percent of this total was assigned to awarding units of the NIH. Most of the increase reflects applications submitted for the May National Advisory Council and Board rounds. The historical workload profile is presented in Figure 2. In addition, the Branch will have processed 19,111 non-competitive applications, approximately the same number as last year.

As reported last year, computer terminals were being installed to enable direct access to the DRG data system. This has been completed for direct logging of applications including assignment information. Thus the 3x5 card system used for many years is now obsolete, and assignment information, including changes, is available to all

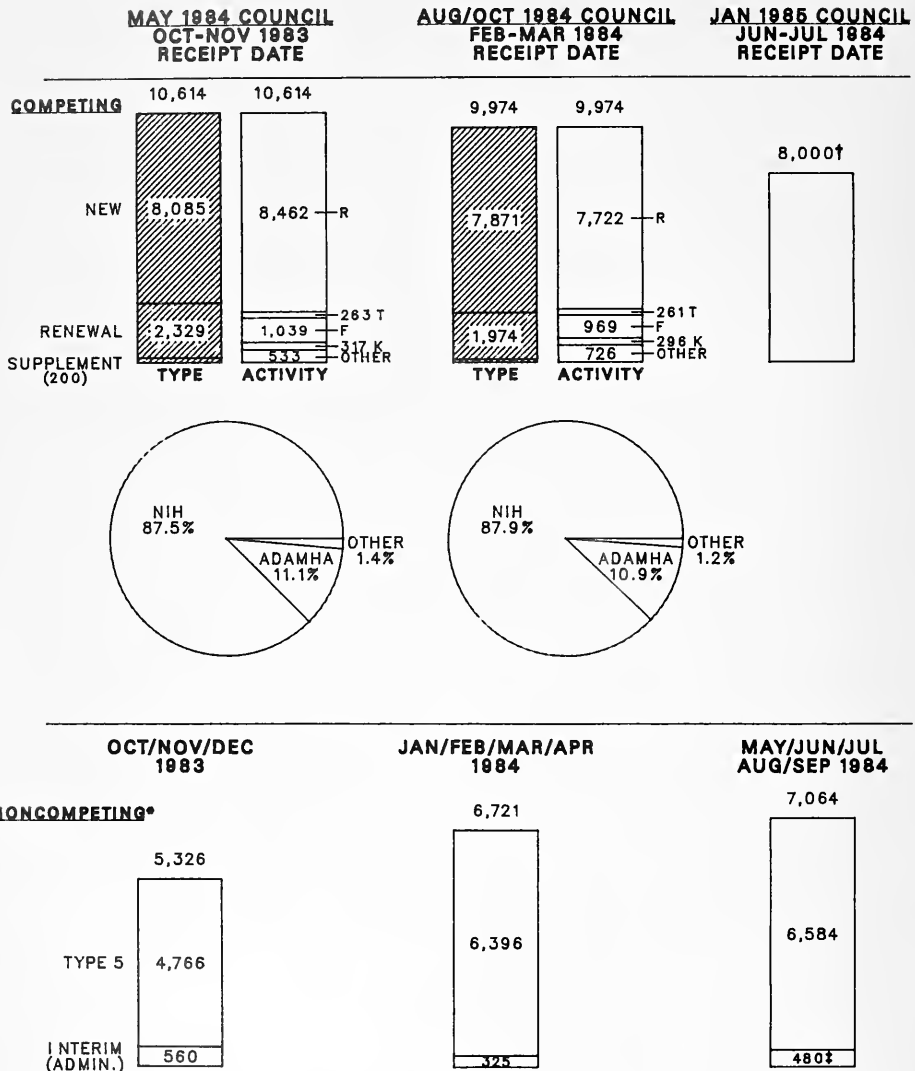
users within 24 hours. In addition, five new 8188 computers plus printers, recently installed to replace microfiche equipment, have increased the efficiency of searching for history records necessary for making knowledgeable initial review group and Institute assignments of competing applications. The savings in time and resources have been reflected in the decrease of overtime now required to meet deadlines for the processing of applications.

The Deputy Chief for Referral was invited to participate in the Region IV meeting of the National Council of University Research Administrators in Omaha, Nebraska (May 9-11), and made a presentation on "Federal Funding Opportunities." He spoke to the NIGMS Council on the "Policies and Procedures for Assignment to Study Sections" at the Council's meeting in May. He served as a member of the Steering Committee for the initiation and implementation of a training workshop on "Managing Advisory Committees" in February, and is participating in a similar role for an additional training workshop session September resulting from the success of the first.

The revision of the Handbook for Referral Officers is currently underway with a target date of November 1 for completion.

**FIGURE 1**

**NUMBER OF APPLICATIONS PROCESSED BY  
THE REFERRAL SECTION IN FISCAL YEAR 1984**



†ESTIMATED. CHART PREPARED PRIOR TO END OF FISCAL YEAR.

\*NONCOMPETING APPLICATIONS ARE RECEIVED EACH MONTH. NUMBERS FOR TYPE 5 APPLICATIONS REFLECT THE INTERVAL FROM ONE COUNCIL ROUND TO THE NEXT.

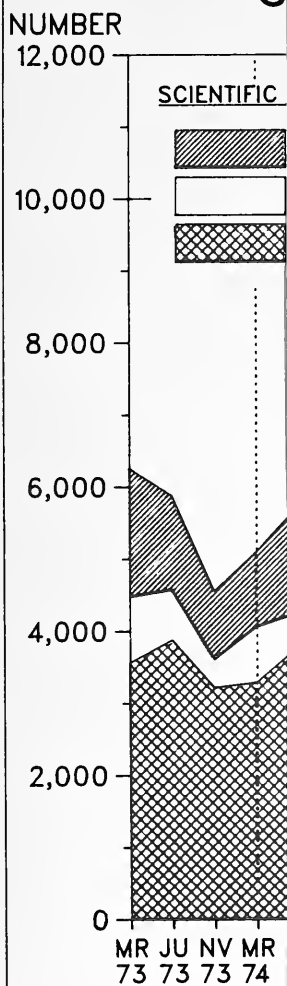
‡FIGURE REFLECTS ACTIVITY THROUGH JULY ONLY.

SOURCE: NIH, DRG, STATISTICS AND ANALYSIS BRANCH

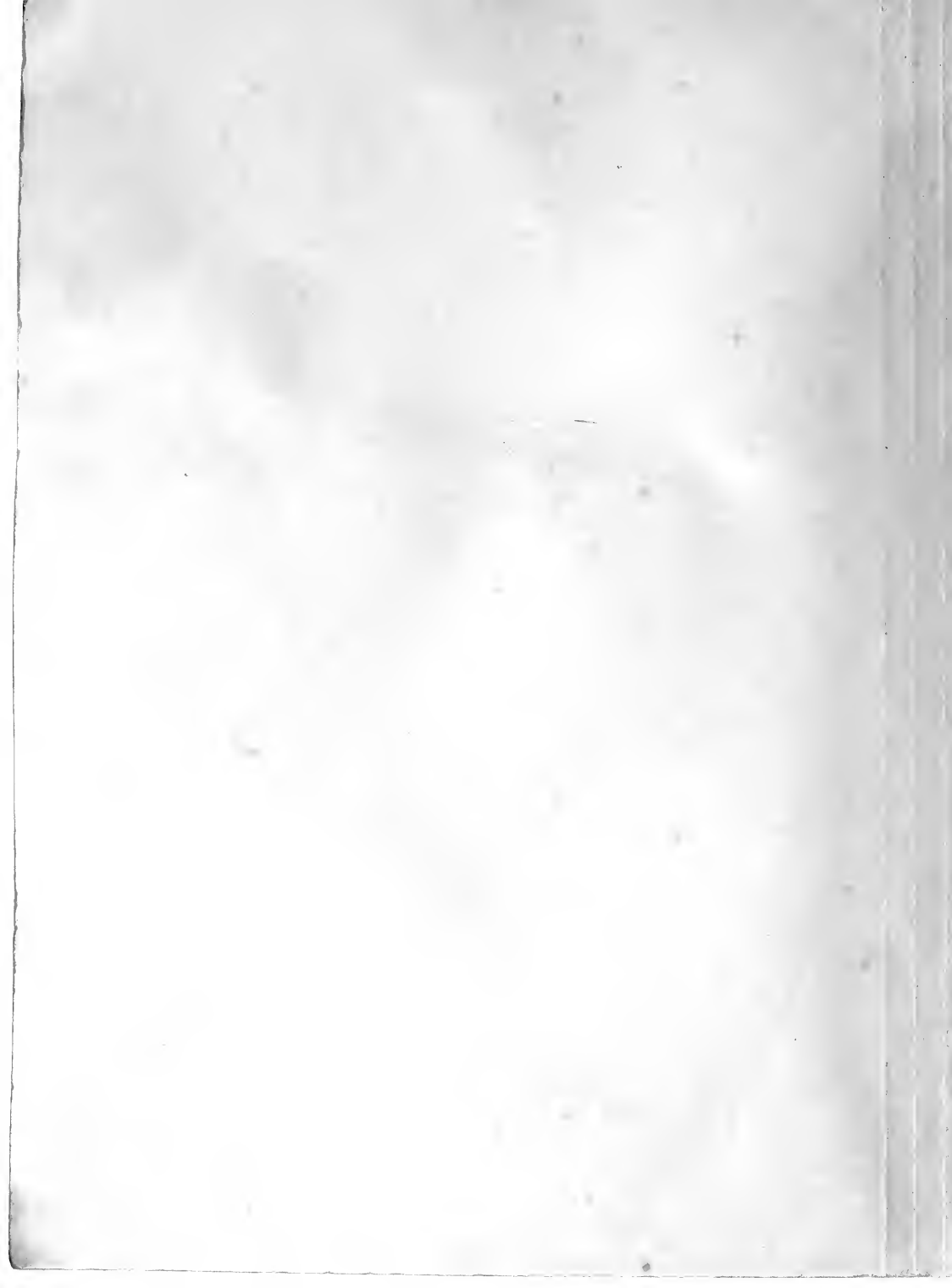
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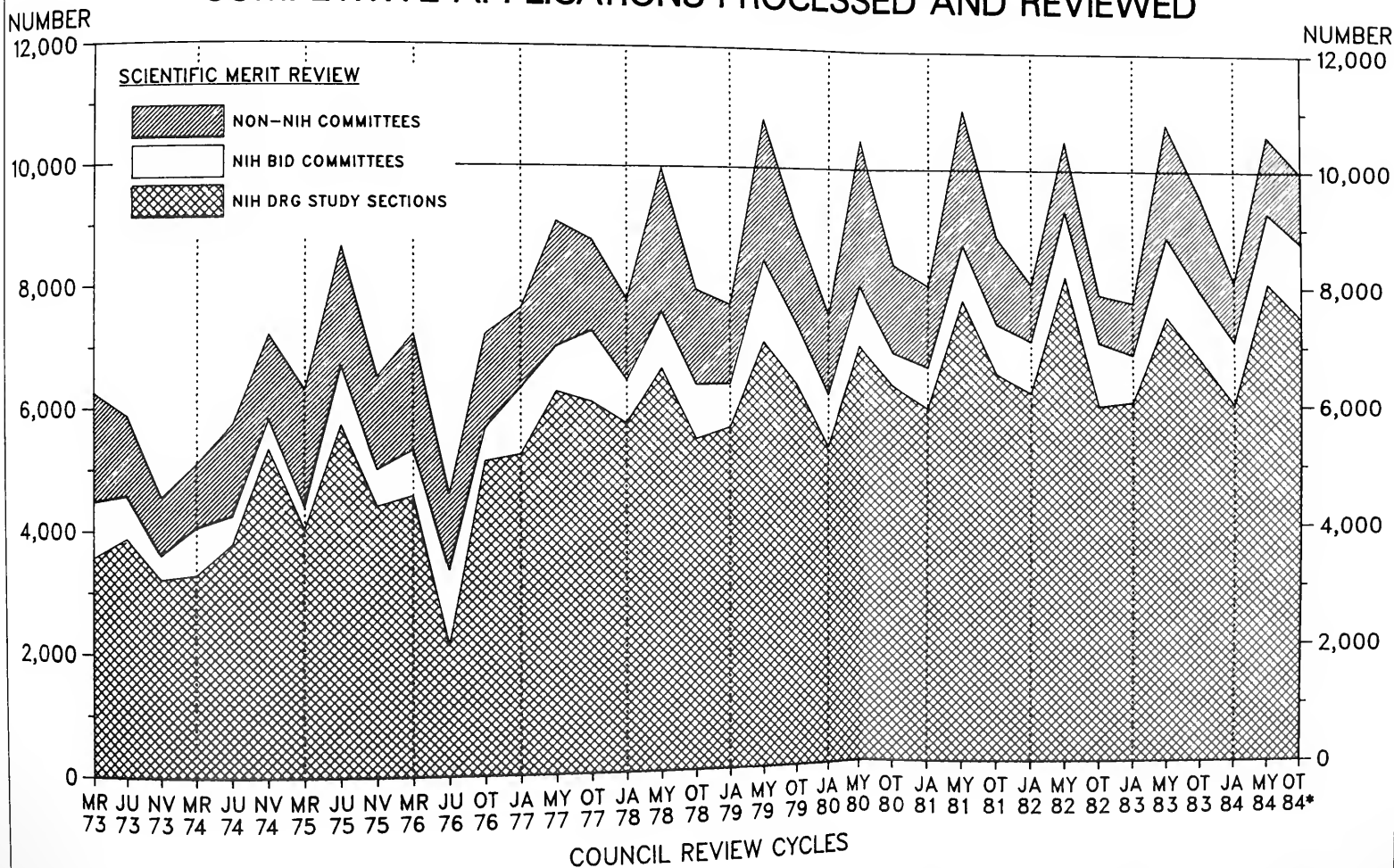
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NOTE: DATA INCLUD  
AND REVIEW CYCLE  
SPECIAL COUNCIL  
SOURCE: NIH/DRG/



**FIGURE 2 REFERRAL AND REVIEW BRANCH  
COMPETITIVE APPLICATIONS PROCESSED AND REVIEWED**



NOTE: DATA INCLUDE APPLICATIONS WITHDRAWN PRIOR TO REVIEW. DEFERRALS ARE COUNTED TWICE - AT REVIEW CYCLE OF DEFERRAL AND REVIEW CYCLE OF FINAL ACTION. JUNE 76 SPECIAL COUNCIL. MAY 77 INCLUDES AUG 77 SPECIAL COUNCIL. OCT 83 INCLUDES AUG 83 SPECIAL COUNCIL. OCT 84 INCLUDES AUG 84 SPECIAL COUNCIL. \*PRELIMINARY.  
SOURCE: NIH/DRG/SAB (IRG HISTORY TAPES - EXCEPT FOR RECENT CYCLES WHEN FINAL TAPES ARE NOT YET AVAILABLE.)



### REVIEW ACTIVITIES

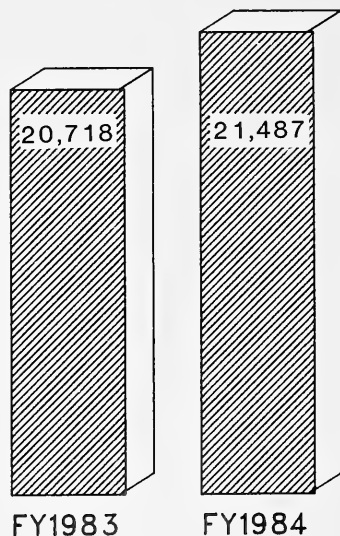
The initial review groups, more commonly referred to as study sections, in the Referral and Review Branch provide the scientific merit review of most of the research grant and training applications to the NIH. During Fiscal Year 1984, these groups reviewed 21,487 applications, an increase of 769 over the workload for FY 1983 (Figure 3).

To accommodate its portion of the large workload, the Oral Biology and Medicine Study Section was enlarged into a flexible study section with two subcommittees. The Special Review Section also increased its staff of Executive Secretaries and Grants Assistants so as to be able to manage the large number of SBIR applications. In this regard, the Branch began reviewing Phase II as well as Phase I SBIR applications.

The Branch continued to revise and update its instructional materials for consultants and staff. Thus, the "Guide for Assigned Reviewers' Preliminary Comments on Research Grant Applications" was modified to include new requirements related to foreign organizations, and the Handbook for Grants Assistants was extensively revised and enlarged.

The Branch actively participated in the December 12, 1983, meeting involving all the NIH scientific review group chairpersons, the Director, NIH, and other top management staff at the NIH. DRG staff assisted in developing the agenda, supervised the arrangements for the meeting, chaired discussion groups at the meeting, and

**FIGURE 3**  
**APPLICATIONS REVIEWED**  
**BY DRG STUDY SECTIONS**



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## **Referral and Review Branch**

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prepared the Proceedings from the meetings.

Considerable progress has been made in the preparation of computer-generated summary statements. Approximately half of the Branch's study sections are using a system whereby study section staff enter their summary statements into IBM Display writers and then transfer the documents electronically to the central computer so that the various Institutes may retrieve them on their own terminals. The Branch anticipates that the remaining study sections will be using the system to generate summary statements from the October-November 1984 study section meetings.

### **OFFICE OF RESEARCH MANPOWER**

The major project this year in the forms development area was the revision of the individual fellowship application form and related documents in the PHS 416 form series. This revision will be transmitted for clearance to Office of Management and Budget. Some of the other accomplishments in the forms area were the development of revised supplemental application instructions for the re-announced Short-term Training for Health Professional Student Program and revision of the reviewers' guide for this program. Also both revisions of the institutional training grant application forms (competing and noncompeting) were put into use along with a revised program announcement for the competing application kit.

The Office of Research Manpower continued to serve as a central informa-

tion source on the NIH training program by responding to numerous calls and letters from applicants and NIH staff. The office served also in an advisory capacity to a number of groups and meetings. The program analyst was a regular expert consultant on the Ad hoc Study Group on Access to Institutional Training Grants, which presented its report on increasing minorities and women on institutional training grants to the EPMC Subcommittee on Equal Opportunity for Access in Extramural Programs in March 1984.

The Office is involved in the development of a number of routine and special statistical reports. The routine reports are exemplified by the annual training program statistics for the National Academy of Sciences and the NIH Fellowship Award listing.

The Office serves in a staff capacity to the Assistant Chief for Manpower Review, DRG, to improve the quality of fellowship review and improve the communication between the Institutes and study sections. Such regular activities include administratively reviewing fellowship summary statements, coordinating staff attendance at Institute second level review meetings, notifying Institutes of study section meetings, and attending study section and second level review meetings. A special activity in this area is the appointment of the Fellowship Summary Statement Committee, which is charged with developing an alternate summary statement format.

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## Referral and Review Branch

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### WORKSHOPS SPONSORED BY STUDY SECTIONS

At a June 21, 1984, Symposium, Dr. Mark A. Davis of Stanford University made a presentation to the Allergy and Immunology Study Section entitled "Isolation of the Gene Encoding the Murine T-Cell Receptor." Dr. Davis has been closely identified with one of the most important areas of contemporary immunology, the search for the T-cell receptor. He recently reported the first successful cloning of the genes for the murine T-cell receptor.

The Metallobiochemistry Study Section and the National Institute of Arthritis, Diabetes, and Digestive and Kidney Diseases sponsored a workshop on "Metals in Medicine," which was held on February 3 and 4, 1984, immediately following a Gordon Conference on "Trace Metals in Biology." The metals selected for discussion at the workshop were iron, zinc, calcium, copper, cadmium, and aluminum, metals for which sufficient information of both medical and biochemical aspects were available. Among the pathological conditions considered that were linked to these metals were: iron-deficiency anemia, transfusional iron overload, especially as exacerbated by Vitamin C, osteoporosis, Alzheimer's disease, Wilson's disease, Menkes' disease, osteomalacia (from cadmium toxicity), and acrodermatitis enteropathica. Approximately 70 scientists attended the workshop.

A summary of the workshop was published in booklet form by DRG.

In conjunction with their regular fall meetings, the Toxicology and Pathology B Study Sections co-sponsored a "Workshop on Immunotoxicology" with the National Institute for Environmental Health Sciences. The workshop was held October 17 and 18, 1983, at Research Triangle Park, North Carolina. The workshop included a poster session in which over 40 high quality abstracts were presented in an evening meeting. An objective was to encourage interaction and dialogue between toxicologists and immunologists, with special emphasis on the new investigator. Over 22 speakers and 250 participants attended. A summary report will be made available. Workshop topics included: "Occupational Immunological Diseases and Contact Hypersensitivity," "Chemicals that Induce Immunotoxicity," and "Cells of the Immune System as Models to Study Cellular Injury."

### PROFESSIONAL ACTIVITIES BY STAFF

Dr. Halvor G. Aaslestad, Chief, Biological Sciences Review Section: represented the NIH and DRG at a meeting of the National Council of University Research Administrators in Washington, D.C., on November 8 and 9, 1983; presented an overview of the DRG receipt, referral and review process to a gathering of NIADDK research staff

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## Referral and Review Branch

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and postdoctoral fellows at the NIH on March 2, 1984; participated on behalf of DRG in the meeting of the American Society for Microbiology in St. Louis, Missouri, on March 6 to 8, 1984; spoke on the subject of conflict of interest in the review of research grant applications at a STEP module on "Conflict of Interest in Extramural Activities," which was held in Gaithersburg, Maryland, on March 30, 1984; helped manage the DRG booth at the annual Minority Biomedical Research Support Symposium in Washington, D.C., on April 11 to 13, 1984; and on September 10 and 11, 1984, was a principal participant in a new course for NIH employees, sponsored by the Grants Associates Office and entitled "Fundamentals of NIH Extramural Activities."

Ms. Faye Calhoun Executive Secretary, Toxicology Study Section: facilitated a management retreat in the spring, 1984, for the Division of Biometry and Epidemiology, FDA.

Dr. Harold M. Davidson, Executive Secretary, General Medicine A Study Section: was elected president of the NIH chapter of the Federal Executive and Professional Association, and also was elected to membership on the National Board of that society.

Dr. Donna J. Dean, Executive Secretary, General Medicine A Study Section: was appointed to ad hoc membership on the Research Committee of the American Gastroenterological Association in October 1983; gave a presentation on study section activities and the peer review

process to the National Digestive Diseases Advisory Board on January 31, 1984; was designated as DRG representative to the Digestive Interagency Coordinating Committee in March 1984; attended the Minority Biomedical Research Support Symposium in Washington, D.C. on April 10-13, 1984, and participated in staffing the DRG booth; participated, along with study section members, in a workshop entitled "Is the Marmoset an Experimental Model for the Study of Gastrointestinal Disease?" sponsored by NIADDK in Oak Ridge, Tennessee on April 18-20, 1984; participated as DRG representative and discussion leader in the Workshop on Extramural Programs and Grant Support sponsored by NIGMS on May 15, 1984; and was advisor to the Montgomery County Schools on science fair projects and served as judge in the annual Montgomery Area Science Fair.

Dr. Dharam S. Dhindsa, Executive Secretary, Reproductive Biology Study Section: was invited by the American Society for Andrology to give a talk to young scientists regarding the peer review system at the NIH, at the annual meeting held at Los Angeles, California, in March 1984; gave a seminar at Vanderbilt University, Nashville, Tennessee in April 1984 on the "NIH Peer Review Process and Mechanisms of Funding"; presented a seminar at the Oregon Health Sciences University, Portland, Oregon on the "NIH Peer Review Process and Funding Mechanism," on May 11, 1984; represented the NIH at the annual



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## ***Referral and Review Branch***

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meeting of the Society for the Study of Reproduction held at Laramie, Wyoming, July 1984; and reviewed four manuscripts for the International Goat and Sheep Research Journal and one manuscript for the Journal of Medical Primatology.

Dr. Phyllis B. Eveleth, Executive Secretary, Epidemiology and Disease Control Study Section: presented a paper entitled, "Nutritional Implications of Differences in Adolescent Growth and Maturation and Adult Body Size" as an invited speaker at the International Symposium on Nutritional Adaptation in Man held in Royal Windsor, England from April 1-5, 1984; chaired the "Growth and Development" session at the annual meeting of the American Association of Physical Anthropologists in Philadelphia on April 12, 1984; from September 20-23 in Mexico City and December 12-16, in Washington, D.C., served as a member of the official U.S. delegation to the U.S.--Mexico Mixed Commission on Science and Technology; and during the fiscal year was a member of the Executive Committee of the Human Biology Council and served on the editorial boards of the American Journal of Physical Anthropology and the Annals of Human Biology.

Dr. Martin Frank, Executive Secretary, Physiology Study Section: was Associate Professorial Lecturer, Department of Physiology, The George Washington University School of Medicine; served as a member of the faculty for STEP Module 1---"Introduction to Extramural Programs, NIH," presenting the segment

on the review process; presented a seminar entitled "NIH Peer Review and Research Funding Mechanisms" to the Department of Physiology, University of Maryland School of Medicine, Baltimore, Maryland, on January 11, 1984; organized a STEP Forum entitled "Scientific Fraud and Abuse: A Pot-pourri of Views," March 29, 1984; on May 8-9, served as a member of the organizing committee for STEP Module 6 --- "NIH and Business-Partners in Research"; reviewed scientific papers for the American Journal of Physiology; served as a preceptor for Dr. Roger Aamodt, Grants Associate, orienting him to the responsibilities of an Executive Secretary; and completed a professional development program designed to provide him with semi-formal experiences in other areas of NIH administration, specifically working with Ms. Lily Engstrom and Dr. William Raub, Deputy Director for Extramural Research and Training, on the Small Business Innovation Research (SBIR) Program. During the fiscal year, Dr. Frank was also selected to the DHHS Senior Executive Service (SES) Candidate Development Program, attending three SES core programs and, from March 26, 1984, to July 6, 1984, serving as Special Assistant to Dr. Glenna M. Crooks, Deputy Assistant Secretary for Health (Planning and Evaluation), OASH, PHS.

Dr. Mischa E. Friedman, Chief Referral and Review Branch, at the invitation of a number of a national and regional societies, presented lectures on the peer review system and the granting mechanisms at NIH, including: the American Society for Parenteral and Enteral Nutrition,

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## **Referral and Review Branch**

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Las Vegas, January 30, 1984; the National Association of Pediatric Nurse Associates and Practitioners, Philadelphia, March 1, 1984, as a follow up of an earlier presentation at the Executive Office Building, the White House; the Association of Neuroscience Departments and Programs, Washington, D.C., May 11, 1984; and the Society of Research Administrators, S.E. Branch, Clearwater Beach, Florida, May 15, 1984. At the invitation of the Dean of the Hadassah Medical School, Hebrew University, Dr. Friedman traveled to Jerusalem, Israel for his first week in April 1984 to meet with Israel government officials, administrators, and researchers at The Hebrew University, The Hadassah Medical School, and The Hadassah Hospital to discuss their research programs, the support of research at foreign institutions by NIH, as the peer review process.

Dr. Clarice E. Gaylord, Executive Secretary, Pathobiochemistry Study Section: presented a lecture on "Health Administration as an Alternate Career for Science Majors" at Bennett College, Greensboro, North Carolina, on November 8, 1983; spoke about the NIH extramural program and grant application process at North Carolina A&T State College, Greensboro, North Carolina, on December 6-8, 1983; organized a STEP forum on "Alternate Sources of Research and Fellowship Support: Grants From Private Foundations and Corporations," which was held at the NIH on February 7, 1984; participated in a "Grant Opportunities Workshop" at Le Moyne-Owen College, Memphis, Tennessee, on February 27, 1984;

helped manage the DRG booth at the Annual Minority Biomedical Research Support Symposium in Washington, D.C. from April 11 to 13, 1984; advised an Extramural Associate (Dr. Dorothy Higgins from Emmanuel College in Boston) from January through June 1984; and spoke on peer review at the NIH to faculty at Morehouse College, Atlanta, Georgia, on September 19-20, 1984. Dr. Gaylord also received the NIH Merit Award for her effective leadership as Chairperson of the Division's Employee Advisory Committee.

Mr. Morris M. Graff Executive Secretary, Endocrinology Study Section: during November 1983, spoke on the peer review of research grant applications at the Universities of Naples, Pisa, and Rome in Italy.

Dr. Jane H. Hu, Executive Secretary, Visual Sciences Study Section (Subcommittee 2): on May 2, 1984, was invited by the Association of Research in Vision and Ophthalmology to speak on "Study Section and Scientific Review" during the general membership meeting held in Sarasota, Florida; and was one of the organizers and also participated in the International Symposium on the Retina held from August 13 to 16, 1984 in Taipei, Republic of China, where she spoke on "The National Institutes of Health and Biomedical Research Support in the United States."

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Dr. Asher A. Hyatt, Chief, Biomedical Sciences Section, was awarded the NIH Director's Award, NIH's highest honor award for civil service employees, for "exhibiting excellent leadership and mediation skills in the inter-agency effort to revise the format of the PHS 398 Grant Application Form." Dr. Hyatt gave talks on peer review, grantsmanship, and application writing at North Dakota State University, Meharry Medical College, the Roche Institute of Molecular Biology, the Seattle meeting of the American Association of Anatomists, and the Minority Biomedical Research Support Symposium; helped manage the DRG booth at the annual meeting of the National Council of University Research Administrators; gave presentations on peer review to a research administration delegation from the Republic of South Africa and to the Second Secretary of the British Medical Research Council (MRC); recently met further with MRC staff in London to discuss specific aspects of the differences between the NIH and MRC logistics of peer review; was a faculty member at a STEP module on "NIH and Business: Partners in Research" and on "Peer Review under Pressure," and participated in a pilot training program on "Managing Advisory Committees"; has been chairing a committee examining the format of summary statements; continued his service on the Office of Personnel Management's panel to rate potential Health Scientist Administrators and Grants Associates; and continued as Treasurer of the D.C. Chapter of the Association of Humanistic Psychology.

Dr. Miriam F. Kelty, Chief, Behavioral and Neurosciences Review Section: served in a variety of governance positions in the American Psychological Association during 1983-1984, including being a member of the Committee on Women and Health and the Legislative Forum of the Division of Health Psychology and elected Secretary of that Division; as Past-President, a member of the Board of Directors of the Division of Psychologists in Public Service; a member of that Division's Recognition Awards Committee; and chair of the Nominations and Elections Committee. She is also an active member of the Division of Population and Environmental Psychology, the Division of Comparative and Physiological Psychology, and the Division of the Psychology of Women; an invited member of the Washington Area Bioethics Seminar, an ongoing seminar of individuals from area academic institutions, Government agencies, Congressional committees, public interest groups, the religious community and the journalist community that meets monthly to discuss ethical issues in science and technology and their implications for society; and also an invited participant in the Health Policy Forum, an ongoing series of seminars and workshops on health policy issues attended by Congressional staff and agency personnel. In addition, Dr. Kelty participated as a representative of the NIH in the PHS Initiative on Health and Behavior Committee, and is the DRG representative to NIH's Working Group on Health and Behavior. She represents DRG as a member of the Federation of Behavioral, Psychological and Cognitive Sciences, and also

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represents the Division of the Inter-agency Work Group in the Neurosciences.

In addition, Dr. Kelty: on March 7 and 8, 1984, in the role of an American Psychological Association Distinguished Visitor, spent two days consulting and lecturing to students and faculty at Albright College, Reading, Pa., on "Health Behavior: Research Advances and Emerging Career Opportunities" and on "Ethical Problems in Research"; on March 16, 1984, was invited to participate as an expert panelist in a Delphi study of future trends in the health care industry and to forecast strategic responses most likely to achieve success; on April 11, 1984, represented DRG at a symposium on the use of animals in research and alternative model systems; on May 11, 1984, was invited to present a talk on grant review to the Association of Neuroscience Departments and Programs; met with students of a Montgomery County Middle School to make several presentations on psychology as a profession for their Career Day Program; in July 1984, became a member of the Advisory Board of the Greater Washington Association for the Advancement of Psychology; and on August 24, 1984, made a presentation on peer review at the American Psychological Association's annual meeting in Toronto. Dr. Kelty is a consulting editor of Health Psychology, is on the editorial board of Women & Health, and is a frequent reviewer for a number of journals in her field.

Dr. Lottie Kornfeld, Executive Secretary, Immunological Sciences Study Section: attended the Mid-

winter Conference of Immunology at Asilomar, California, in January 1984, where she participated in a roundtable discussion on NIH peer review and funding procedures.

Dr. Teresa E. Levitin, Executive Secretary, Human Development and Aging Study Section: at the 1984 annual convention of the American Psychological Association, was the Co-organizer and Co-chair of a symposium entitled "Family Processes and Mental Health - New Directions for Research" as well as Co-organizer and Co-chair of a panel discussion entitled "NIH Support for the Behavioral Sciences"; is the Co-chair of the Society for the Advancement of Social Psychology and on the editorial review boards of both the Journal of Social Issues and the Journal of Family Issues; participated in the development and organization of two workshops at the National Institute of Mental Health, one on family processes and another on the effects of divorce on children; and gave a presentation on the effects of suicide on surviving family members at the St. Elizabeth Hospital's Mary O'Malley Division as part of their inservice training program.

Dr. John L. Meyer, Executive Secretary, Pathology B Study Section: at the 5th International Symposium on Urolithiasis and Related Clinical Research, Carmisch-Partenkirchen, West Germany, April 1-5, 1984, gave a lecture on "The Relative Importance of Calcium Phosphate Urinary Inhibitors," and was a round table participant in a session entitled

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"Comparison of Models for the Study of Inhibitor Activity in Urine"; was workshop Co-chairman for "Urinary Inhibitors of Calcium Oxalate Crystallization," at the 9th International Congress of Nephrology, Los Angeles, California, June 11-16, 1984; and presented "Aluminum and Aluminum Complexes: Effect on Calcium Phosphate Precipitation" at a symposium entitled Aluminum-Related Disease: Pathogenesis, Recognition, Treatment, and Prevention, Newport Beach, California, June 18-20, 1984.

Dr. Rosemary S. Morris, Executive Secretary, Cardiovascular and Renal Study Section: was appointed Chairperson of the Nominating Committee for the Lederle Award of the American Institute of Nutrition.

Dr. Antonia C. Novello, Executive Secretary, General Medicine B Study Section: spoke on "Research Grant" Procedures of the NIH" as part of a workshop on Techniques in Renal Research at the 14th Annual Post-graduate Nephrology Seminar held in New York City in October 1983; during October 1983, became a member of the Editorial Board of the International Journal of Artificial Organs; Co-chaired the Renal Physiology Water and Solutes Session at the 16th Annual Meeting of the American Society of Nephrology in Washington, D.C., December 1983; was appointed a member of the Board of Directors of the Pan American Medical and Dental Society, Washington, D.C., in January 1984; lectured on "Chronic Renal Failure - Its Management" on April 19, 1984, to medical students at the Georgetown University Hospital; helped manage the

DRG booth at the annual Minority Biomedical Research Support Symposium in Washington, D.C., on April 11-13, 1984; during the May 1984 Pediatric Research Meeting, presented two lectures --- "Update on Pediatric Nephrology Applications at the NIH" and "The Do's and Don't's of the Review Process and Research Grants at the NIH"; spoke to the members of the Pan American Medical and Dental Society at their May 1984 meeting on "Legislation Trends: How They Affect your Practice"; at the June 7 to 9, 1984, meeting of the Mexican Society of Nephrology, presented lectures on "Nutrition on Renal Failure as a Means of Arresting Disease Progression and Entry into Dialysis: State of the Art," "Fogarty Center International Fellowship Awards," and "Pediatric Nephrology: How Important is This in a General Pediatric Setting?"; presented a paper entitled "Current Status of Organ Legislation in the United States" at the 10th International Congress of the Transplantation Society, Minneapolis, Minnesota, held from August 26 to 31, 1983; in August 1984, spoke on "The NIH Review Process: An Update" at the Henry Ford Hospital and National Kidney Foundation of Michigan; gave a presentation at the NIH on the "Grants Review Process: Fundamentals of NIH Extramural Activities and Orientation," on September 10 and 11, 1984; and in September 1984 gave three lectures on Lupus Nephritis (the disease, current treatment, and future treatment and modalities) to the Mexican Society of Nephrology, Jalapa, Mexico.

During the past fiscal year,

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Dr. Novella also: was an ad hoc member of the Labor and Human Resources Committee, U.S. Senate, working with staff in rewriting legislation pertaining to the Organ Procurement and Transplantation Act of 1983; participated in a lecture series sponsored by the Georgetown University Medical Center Inter-departmental Research Group; contributed to the health column in Women's World magazine; and spoke twice on "Health Issues of the 80's for Men and Women" as part of the Division's Employees Advisory Committee lecture series.

Dr. Novella's honors and awards included: an accelerated promotion to Captain in the U.S. Public Health Service; a Public Health Service Honor Award in recognition of her work as a Legislative Fellow with the U.S. Senate Committee on Labor and Human Resources; and an award by the Physicians of the Metropolitan Psychiatric Group for her services as a consultant to their Adolescent In-patient Unit during the past 5 years.

Dr. Richard A. Peabody, Executive Secretary, Experimental Cardio-vascular Study Section: attended the annual meeting of the Federation of American Societies for Experimental Biology and Medicine from April 1-5, 1984, in St. Louis, Missouri, where he helped staff the NIH booth and answered questions from investigators regarding peer review, policies, procedures for submitting grant applications, and various NIH programs; attended a workshop meeting, "Animals and the Scientist," at Johns Hopkins University, May 21-22, 1984,

sponsored by the Scientists Center for Animal Welfare, and participated in workshop discussions, serving as a resource person in general discussions on NIH policies and procedures in the peer review of proposals involving animals.

Dr. Irving Simos, Deputy Chief for Review: on April 10, 1984, presented a lecture on procedures involved in receipt and review of grant applications to an audience of the University of Michigan Medical School faculty and students.

Ms. Ileen E. Stewart, Executive, Secretary, Orthopedics and Musculo-Skeletal Study Section: attended the Orthopedic Research Society meeting in Atlanta, Georgia, in February 1984, where she participated in the session of the Research Committee of the American Academy of Orthopedic Surgeons and answered questions about the status and numbers of orthopedic applications; at the same meeting, took part in an Instructional Course, with three orthopedic surgeons, on grants; and assisted in manning a DRG booth at the annual Minority Biomedical Research Support Symposium, held in Washington, D.C., from April 11 to 13, 1984.

Dr. Thomas M. Tarpley, Executive Secretary, Oral Biology and Medicine Study Section: gave two seminars at Ohio State University on September 8-9, 1983 --- "Vesiculo-Bullous Lesions of the Mucosa" and "NIH Grant Applications: Reflections by an Executive Secretary" (G.V. Black Lecture-ship); offered a short course on "Salivary Disease and Pathology" at

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## ***Referral and Review Branch***

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the National Naval Dental Center, Bethesda, Maryland, on January 17, 1984; gave a course entitled "Pathological Manifestations of Salivary Gland Lesions" for the Armed Forces Institute of Pathology, on March 8, 1984, in Bethesda, Maryland; and spoke on "Xerostomia -- Medically Related Sjogrens" for the American Medical and Dental Association, in Snowmass, Colorado, on March 13, 1984. During the fiscal year, Dr. Tarpley was appointed Professorial Lecturer at the Department of Oral Pathology of the Georgetown University School of Dentistry; continued as an Associate Clinical Professor of Pathology, Department of Pathology, Uniformed Services University of the Health Sciences, Bethesda, Maryland; and continued as a consultant for the U.S. Naval Regional Dental Center, Bethesda, Maryland.

Dr. Adolphus Toliver, Executive Secretary, Biochemistry Study Section: gave a talk entitled "Your NIH Grant Application: A Study Section Perspective" to the faculty of the Division of Biology at Kansas State University, Manhattan, Kansas, on October 7, 1983; spoke on "How to Write a Winning Grant Application" and conducted a grantsmanship workshop at Florida A&M University, Tallahassee, Florida, on November 17, and 18, 1983; presented a talk on preparing a grant application to the NIH to postdoctoral and graduate students in the Department of Biochemistry, University of Texas Medical School, Houston, Texas, on January 18, 1984; participated in Career Day at Bowie State College, Bowie Maryland, on March 14, 1984, by speaking on

"Choosing a Career in Biomedical Research" and "The Elucidation of the Mammalian Cell Life Cycle"; presented a lecture on "Your NIH Grant Application: A Study Section Perspective" at The College of Arts and Sciences, University of South Carolina, on April 2, 1984; at Benedict College, Columbia, South Carolina, on April 3 and 4, 1984, conducted a grantsmanship workshop and gave several lectures, including "On the Cloning of the Insulin Gene," "The Do's and Don'ts of Grantsmanship," "How to Dissect the Mammalian Cell Life Cycle," and "Why Choose a Career in Biomedical Research"; and participated in "Celebration of Research," a two day event, on April 26 and 27, 1984, in San Antonio, Texas, for postdoctoral and graduate students and faculty (At this event, which was sponsored by the University of Texas Health Science Center, he presented a seminar on "Your NIH Grant Application: From Its Mailing through Its Review," consulted with faculty about their research, and was involved in the graduate student poster sessions on their research. Dr. Toliver also served on the advisory board and participated in the NIH Extramural Research Associate Workshop, in Bethesda, Maryland, from June 25 through 27, 1984.

Dr. Nathan Watzman, Chief, Clinical Sciences Review Section: responded to questions from pulmonary investigators on peer review at the NIH at the annual meeting of the American Thoracic Society in Miami Beach, Florida, from May 20 to 23, 1984; and has also been active as a member of the Regulation and Science Policy Committee of the Academy of Pharma-

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ceutical Sciences, American Pharmaceutical Association. During the fiscal year, Dr. Watzman was promoted from Executive Secretary of the Respiratory and Applied Physiology Study Section to Chief of the Branch's Clinical Sciences Review Section.

Dr. W. Elbert Wilson, Executive Secretary, Manpower Review Section: as Adjunct Professor of Management at Montgomery College, Rockville, Maryland, Campus, taught "Principles of Supervision" during the fall and spring semesters.

Dr. Catharine L. Wingate, Executive Secretary, Diagnostic Radiology Study Section: was an invited speaker and spoke on "How a Study Section Works" at the Society of Chairmen of Academic Radiology Departments, on May 7-9, 1984, Newport Beach, California; and continued to serve as a review editor of Medical Physics.

### PUBLICATIONS

Eisenberg, R.S., M. Frank, and C.F. Stevens, (Eds.): Membranes, Channels and Noise. Plenum Publishing Corp., In Press.

Eveleth, P.B.: "Timing of Menarche: Secular Trend and Population Differences," School-Age Pregnancy and Parenthood: Biosocial Dimensions, J. Lancaster and B. Hamburg (Eds.), Aldine Press, In Press.

Hediger, M.L., Schall, J.I., Katz, S.H., Gruskin, A.B., and Eveleth, P.B.: "Resting Blood Pressure and Pulse Rate Distributions in Black

Adolescents: The Philadelphia Blood Pressure Project," Pediatrics, In Press.

Murphy, D.G. and Dean, D.J.: "Application and Review Procedures for the National Institutes of Health Small Business Innovation Research Program." Institute Insight: 1-12, 1984.

Murphy, D.G. and Dean, D.J.: "The National Institutes of Health Grant Mechanisms for Anorectal and Colonic Biomedical Research." Diseases of the Colon and Rectum: 27: 333-334, 1984.

Novello, A.C., Kjellstrand, C.M.: "Is Bicarbonate Dialysis better than Acetate Dialysis?" Journal of the American Society of Artificial Organs 6(3):103-107, September 1983.

Novello, A.C., Novello, J.R.: "Enuresis." Handbook of Adolescent Medicine, Ch. 24, Shearin, R.B. (Ed.), A.P. Johnson Publishers, Battle Creek, Michigan, 1983.

Roberts, R., Bowers, B. Slater, M., and Cabib E.: "Chitin Synthesis, Localization in Cell Division Cycle Mutants of *Saccharomyces Cervisiae*." Molecular and Cellular Biology 3: 922-930, May 1983.

Wilson, W.E., Lohmann, U.G. and Chrisholm, L.C.: "Using the MBTI to Predict Career Development Usefulness." Research in Education, ERIC/CAPS ED 23175, June 1984.



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# RESEARCH ANALYSIS AND EVALUATION BRANCH

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The Research Analysis and Evaluation Branch was abolished in April 1984, with its employees reassigned to other positions within the Division of Research Grants, and the Chief named as Assistant Director for Special Projects. Most of the employees were assigned to the Statistics and Analysis Branch. The major functions of the Branch will continue to be implemented within the reorganized structure.

During the fiscal year, the Branch's projects relevant to principal investigators on research grants included refinement of specialized data bases and continued efforts to improve the source files prepared for NIH by the National Academy of Sciences. One special project that was initiated this year is concerned with measures of success of scientists trained in NIH intramural laboratories with extramural fellowship funding. Annual cohorts of these intramurally trained postdoctorals are being compared with other sample populations of extramurally trained postdoctoral fellows. This year, information on principal investigator trends within an institute was made available to several of the Institutes.

The Branch participated in the Keyword Thesaurus Project, funded by the National Science Foundation, to investigate the feasibility of developing and implementing a national classification system for government sponsored programs. For NIH the project relates to classification of RFAs and program announcements in the NIH Guide for Grants and Contracts. Each edition of the Guide since February 1984 has

included codes for the Keywords developed jointly by the Branch and a project steering committee. The first revision of the Keyword Thesaurus is scheduled for publication in 1984.

The Assistant Director for special Projects serves on various NIH and interagency committees. Among them are the NIH Coordinating Committee on Assessment and Transfer of Technology, Clinical Trials Committee, Planning and Evaluation Officers' meetings, Trans-NIH Coordinating Committee for Research Animal Resources, NIH AIDS Working Group, Steering Committee for the Growth of Knowledge Project, and Federal Interagency Chemistry Representatives. On November 5, 1983, he presided over a panel session on "Funding and the Growth of Scientific Specialties" at the annual meeting of the Society for Social Studies of Science at Virginia Polytechnic Institute.



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# STATISTICS AND ANALYSIS BRANCH

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The Statistics and Analysis Branch is involved in almost every facet of NIH's extramural activities. Through its IMPAC System (a central data system on extramural activities), the Branch performs services at virtually every stage of application processing, from initial receipt through the final awards. Utilizing remote computer terminals and interactive software programs, the IMPAC System assists the Referral and Review Branch in the receipt and processing of grant applications, and provides the Branch with various documents, such as reviewers' voting sheets, the Resume of IRG Actions, and the application summary statement ("pink sheet") form. The System also assists the National Advisory Councils and awarding units by providing such documents as the Resume of Council Recommendations and the Notice of Award, and such services as the ability to release, electronically, accounting transactions to the NIH Central Accounting System.

While providing these services and documents, the Branch is at the same time developing a data base on the extramural activities of the NIH. These data are used to support all levels of NIH management and to provide a source from which NIH can meet its reporting obligations.

The Branch also operates CRISP, a sophisticated computer disk storage and retrieval system. CRISP (Computer Retrieval of Information on Scientific Projects) maintains scientific information, under approximately 7,900 subject headings, on all PHS-supported research projects by fiscal year, back to Fiscal Year 1971. CRISP gen-

erates annually the 2-volume Research Awards Index that lists the research projects supported by the PHS during a given fiscal year.

Through its two major information systems, IMPAC and CRISP, and other small systems, such as the Committee Management System, the Trainee Appointment File, the NRSA Payback File, and the Institution Profile File, the Branch provides information services on extramural programs to all levels of management, other Government agencies, and the public at large.

During the past year, the Branch made significant progress in developing and implementing a data communication network utilizing remote terminals that were installed in various extramural offices of the NIH. The expanded network system ties together the receipt and processing of applications in the DRG Referral and Review Branch, the preparation of voting sheets, summary statements, and resumes for DRG study sections, and the preparation of award statements and encumbering documents within the funding Institutes. It is expected that full implementation of the new integrated network system will not only result in significant manpower savings but also greatly improve the quality and timeliness of information recorded in the IMPAC system.

## **SYSTEMS AND DATA MANAGEMENT SECTION**

### IMPAC Brochure

The brochure describing the entire range of IMPAC services to the

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Institutes has been completely revised. Major additions to the brochure include the Interactive Awards System, Accounting Transaction Release System, and Interactive Logging System, as well as descriptions of Committee Management Information Systems (CMIS), National Research Service Award Payback Files, and improvements to the IMPAC software packages.

### Summary Statement System

The first phase of the summary statement system, which provides for the preparation, storage, and retrieval of summary statement data utilizing IBM Displaywriter word processing terminals and on-line computer files, is in the final testing stage. The system permits the word processing terminals to interact with the IMPAC System. Once the new system is fully operational, summary statements will be stored in a computer data set, which will be available for direct access by the Institutes, enabling them to print copies of summary statements at their own work sites. This will eventually eliminate the need to duplicate and store bulk copies of the summary statements in order to have them readily available upon request by Institute staff.

### Name Search Procedure

A computerized, on-line name search procedure, recently established in the DRG Project Control Unit, permits retrieval of information pertaining to an applicant's recent history of prior applications and awards. The new system replaces the less efficient, less up-to-date microfiche file.

### CAN Status Summary File

An interactive program has been developed which will furnish the Institutes with a current summary of fiscal year award information. Requests may be made by Institute, by Common Accounting Number (CAN) within the Institute, or by CAN alone. These data are maintained on a daily basis.

### Consultant File for NIA

An interactive system has been developed to collect and store consultant data for the National Institute on Aging. The terminal also may be used to query the file for specific consultant information.

### Modifications to the Interactive Awards System

Expected indirect cost information has been added to the IMPAC System. Inserted in the IMPAC record through the Interactive Award System, the information is printed on the Notices of Grant Awards for all research awards, which are processed through the Indirect Costs Management System. Another modification to this system permits the estimated number of pre-doctoral and postdoctoral full-time positions to be stored in the IMPAC record.

### IRG Interface System

The Initial Review Group (IRG) Interface system has been enhanced to aid review group personnel in processing data and to insure accuracy and timeliness. IRG computer files may now

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be established as early as desired, giving staff ample opportunity to review and edit data prior to meetings. Repetitive terminal typing has been eliminated by the addition of more encompassing commands to the system.

### Staff Training

Training sessions for orientation in the use of various new interactive systems have been offered throughout the year by the Systems and Data Management staff. In addition to training DRG employees on the IRG Interface System, they have given demonstrations throughout the NIH, ADAMHA, and PHS.

### Contract Data System

An interactive program has been developed for the capture of initial contract data. This program also enables users to edit the information to insure the integrity of the data entered in the IMPAC System.

### Accounting Transaction Release System

This system has now been completely installed and is fully operational throughout the NIH. Approval list processing has been eliminated. Obligation data for grants and awards are now automatically transferred to the Division of Financial Management.

### Application/Grant Authorization Module

A system has been developed for the Referral and Review Branch to expedite and simplify the recording and notification of grant application changes.

Official changes are now entered directly into the IMPAC System on computer terminals. An Application/Grant Change Authorization Notice reflecting the changes made is generated each night by the IMPAC System for each application affected. Copies are distributed to the appropriate initial review group and Institute for inclusion in the official file folders. The data from this system are incorporated into the current Resume of Transactions (ROT) and the daily transaction list. The system is being developed to include authorized changes made by the Institutes and initial review groups.

### Pending Grant and Application Reports

A module has been added to the study section reporting system which permits Institutes to generate pending application and grant reports on-site through computer terminals. This facility eliminates time lags in obtaining the information needed and has proved to be a useful addition to the system.

### New Informational Items Added to the IMPAC System

- Item 131. Entity Identification Number as recorded in the Department of Health and Human Services Registry System
- Item 190. Years and Months of Fellowship Support Requested
- Item 191. Years and Months of Fellowship Support Recommended

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- Item 221. Expected Indirect Costs for Research Grants as Calculated by the Institutes
- Item 235. Small Business/Disadvantaged/Minority Business Code
- Item 280. Number of Full-Time Postdoctoral Trainees
- Item 281. Number of Full-Time Predoctoral Trainees
- Item 313. Date of Initial Encumbrance

### RESEARCH DOCUMENTATION SECTION

The Research Documentation Section maintains the CRISP system, which contains scientific data on research grants, contracts, and cooperative agreements supported by the PHS, as well as NIH and NIMH intramural research projects. Of particular significance in CRISP is the subdivision of program projects, centers, and other large projects into their individual research components or sub-projects, thereby providing more detailed information on the objectives and other aspects of these large grants. Through this system, the Section responds to requests for scientific information from Government administrators, scientists, and information personnel to evaluate research programs or specific scientific areas or to prepare reports. Similarly, the Section responds to inquiries from research institutions, extramural scientists, the news media, and other non-Government sources engaged in,

concerned with, or reporting on medical research.

CRISP has the query capability of (a) providing, in several optional formats, information ranging from a straightforward listing of research pertaining to a single scientific topic to a compendium of projects relating to a complex subject area; (b) furnishing individual Institutes with tapes or hard copy of their projects by subject, project, sub-project, title or name of investigator; and (c) generating institution and Institute tapes or listings of projects with indexing terms (Scientific Profiles). CRISP also has the query capability of limiting subject searches or Scientific Profiles to certain program, activity, or Institution Profile File codes.

### CRISP Services

During the past fiscal year, the Section responded directly to over 1,800 requests on a wide range of subjects; provided Scientific Profile data for grantee institutions; furnished NIH-wide scientific area data for appropriate Institutes; and performed professional editing operations involving thousands of approved research grant and contract applications. In addition, the Section continued to play a significant role in providing material on various trans-NIH issues. Notable among the areas of particular scientific interest this past year were investigations involving biotechnology and biobehavioral research.

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### On-Line Access

Direct access to CRISP is available to all NIH Institutes through the CRISP Inquiry System (CIS) and QIC for CRISP to obtain information from its scientific subject, project narrative, and administrative files.

### NTIS

By arrangements with the National Technical Information Service (NTIS), on-line access to selected extramural and intramural data from the latest completed fiscal year files is available to individuals or groups outside the NIH through subscription. These data comprise the PHS component of NTIS' Federal Research in Progress System.

### Annual Publications

The Research Award Index is a two-volume compendium of information on PHS-supported research projects. Volume I is a scientific subject index with associated project numbers and titles. Volume II contains project identification data, a research contract identification section, and project principal investigator information. The FY 1983 edition (NIH Publication No. 84-200) was printed in May.

The NIH-NIMH Intramural Research Index is composed of scientific information on individual intramural research projects. Similar in format to the Research Awards Index, the current volume, for Departmental use only, was distributed in May.

The Medical and Health Related Sciences Thesaurus is the vocabulary authority list of subjects headings used by the Section staff in indexing research projects. Also for internal use only, the latest edition became available last November.

### Training Courses

An intensive instructional course covering the content and use of the CRIPS system and a laboratory session including hands on demonstration of the user friendly on-line "QIC for CRISP" query were offered during the fiscal year. In addition, several organizational groups and committees were given special briefings on the System and its uses.

### New Initiatives and Improvements

NTIS System Additions. At the request of NTIS, program modifications were made so that the CRISP system would provide NTIS with information on intramural research projects as well as on PHS-supported research. The first tape with the expanded data covering Fiscal Year 1983 was sent to NTIS in March. Also, a variation of the NTIS tape system was developed and implemented for providing CRISP data to TOXLINE.

Updating Project Narratives. Because of interest expressed by several Institutes in updating narrative information on noncompeting projects, CRISP developed the capability of entering these data on an annual basis. In this procedure, the Institutes provide abstracts to CRISP in appropriate machine-readable format. Results to date have been very successful.

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Query Systems. Considerable effort by staff is currently being devoted to revising CIS software programs for increased efficiency and simplification of operation. Results of these improvements will be of material benefit to the entire community of CIS users. In addition, two new CIS routines allow for the options of providing the CRISP project narrative format on microfiche and all formats on tape. Both of the routines are already being utilized by requestors. QIC for CRISP capability has also been dramatically enhanced by new software.

CSCS. Recently, the Section assumed responsibility for coding all research grants, cooperative agreements and contracts not under DRG review according to the Division's generic Central Scientific Classification System (CSCS). This coding was formerly performed by the Research Analysis and Evaluation Branch. Concomitant with the transfer of this operation, the CSCS manual and index were revised by staff for improved clarity.

### **REPORTS, ANALYSIS, AND PRESENTATIONS SECTION**

The primary function of this Section is to satisfy the information requirements of the NIH and PHS centralized extramural activities. In fulfilling this function, the Section utilizes the IMPAC system as well as other data sources. Its responsibilities include the design, maintenance, and operation of computer reporting systems; training and technical assistance in data retrieval; planning and coordination of NIH responses

Federal obligations for research and development; preparation of formal publications, such as listings of NIH grants and awards for the NIH Data Book; statistical analyses to compile and present visual materials dealing with extramural trends or other topics; and development and implementation of special projects involving quantitative or computer-based models used for long-range planning exercises and the evaluation of alternatives to current operating systems. This Section also works closely with the Systems and Data Management Section in maintaining and extending the IMPAC system, and has direct responsibility for establishing institution classifications and related computer files, as well as for ensuring the accuracy of selected key items for publications or reports.

Approximately 49,000 computer jobs were entered by the Section during Fiscal Year 1983, primarily in response to requests for information from NIH officials, other Government agencies, and nongovernment organizations. The Section utilized all data capabilities of the IMPAC system, compiled historical data, designed special reporting files, provided consultation services, and developed specifications to ensure that requestors' needs were met. In addition to hard-copy listings, graphs, and slides, the Section supplied magnetic tapes, which were used by requestors directly to answer questions, or which were entered into the other management information systems.



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### Special Projects

During the year, the Section, through a number of special projects and studies, developed actual data and projections for NIH budgets. These included the volume of research project applications reviewed, awards, paylines, award rates, distribution of awards by type of institution, and so forth. Reports were also prepared on estimated NIH commitments for fiscal years 1985 through 1988 in order to aid the NIH in determining future budget requirements and to ensure consistency and standard presentations of Institute projections.

The Section has recently been asked to be a liaison between OMB and IMPAC. A senior systems analyst will provide assistance in software instruction, data retrieval techniques, and IMPAC reporting concepts to members of the OMB staff who will be accessing the system directly.

The Section continued to monitor extramural data in IMPAC, in the Division of Financial Management's Central Accounting System, and in various Institute systems to promote the credibility and efficiency of extramural reporting. The Section provided many reports on obligations and commitments from the accounting system and IMPAC to the Division of Financial Management for distribution to the Institutes. Data were recently added on direct costs obligated. In response to feedback from the Institutes, considerable analysis of differences was performed, and corrective actions were taken to alleviate problems. New tables were developed to show amounts

and percentages of indirect cost by type and activity groups.

A study of differences between reporting concepts historically used by DRG for reporting award data versus those used for preparing NIH budgets, which was started in Fiscal Year 1981, continued this year. Formal recommendations regarding policy changes to promote greater consistency have been presented to the Deputy Director for Extramural Research and Training, NIH, and the Director, Division of Financial Management. Knowledge gained in this study is applied in various reports and surveys that require strict consistency between IMPAC and budget totals.

In response to growing concerns about the peer review system, the Section prepared numerous reports and charts on priority scores and study section activities. For instance, priority score distributions and averages were compiled for traditional research project applications reviewed by DRG study sections. Data were prepared showing scores for each decile by study section, Institute, and overall totals within each type of grant. Extensive support was provided to a study conducted by The National Heart, Lung, and Blood Institute for the purpose of evaluating differences in scoring behavior among various study sections.

The Section responded to a request from the Deputy Director for Extramural Research and Training to develop data on Historically Black Institutions of Higher Education for a House Appropriations Committee Report.

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These data were presented by the Deputy Director, NIH, in a report from the Department to Congress entitled "NIH Initiatives with Respect to Historically Black Colleges and Universities." The Section continues to act as the authoritative source for data on NIH support to black schools.

In connection with the Small Business Innovation Research activities for FY 1983, the Section worked with the Referral and Review Branch to develop tables for the assignment of applications to study sections for special review; processed over 300 new records for small business organizations who had not previously dealt with NIH; and in response to requests for information, prepared approximately 50 reports.

A set of reference tabulations on indirect cost trends, originally compiled for a presentation to the NIH Director's Advisory Committee in 1982, was updated through FY 1983.

Proposals to limit multiple awards to an individual resulted in requests for information on awards per principal investigator by institution and activity. The Section prepared data for Fiscal Years 1982 and 1983 showing investigators with multiple awards, and also identified each administering Institution and the activities supported. Totals were compiled with and without subprojects, as in the CRISP system.

In response to interest in the characteristics of NIH committee members, the Section developed data that provide 10 year trends for numerous character-

istics, including age, sex, degree, field of doctorate, area of expertise, type of department of employing organization, position classification, and other criteria. Data have also been developed related to various aspects of each member's NIH grant history. A computer system is being developed to monitor annual changes in these aspects of membership on an NIH summary basis or by initial review group.

With the assistance of the Section, five grantee institutions were selected, as a random sample of those receiving less than \$5 million in NIH awards, for site visits to laboratory animal facilities in order to monitor compliance with NIH animal care guidelines. These institutions were not accredited by the American Association for Accreditation of Laboratory Animal Care, but had provided assurance that they were in compliance or progressing toward compliance with their guidelines. The random selection was designed to assure representation by PHS region.

Data on racial and ethnic origin and sex of applicants competing for NIH extramural awards have been recorded since FY 1981. Aggregate trend data relating these characteristics to approval rates and priority scores of research project applications have been compiled.

The Section provided support for a working group established to examine various aspects of the NIH peer review system. Items addressed for selected study sections included measurement of reviewer consensus in

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scoring each application, effect of change from mean to median reviewer score in determining the actual priority score, and procedures to provide study section members with voter feedback.

The Section provided statistical support for an examination by NICHD staff of five-year trends in approval rates and priority score assignments within NIH initial review groups. These trends were viewed in the context of changing conditions, such as increased amendments and limited budgets.

### **Recurring Reports and Publications**

The Section continued to operate and maintain the system for reporting to Institutes currently active or fiscal year awards to date on regular monthly, quarterly, or annual schedules. The data in these reports were organized by geographic location, principal investigator, program class, grant number, budget start date, and other variables. Additional reports were routinely prepared for the Institutes prior to each round of Council meetings, showing details on competing grant applications. Listing and address labels were furnished to the Division of Financial Management, the Alcohol, Drug Abuse and Mental Health Administration, the Health Resources and Services Administration, and the Food and Drug Administration on a monthly basis, identifying grants for which reports on expenditures were overdue. As in previous years, statistical summaries of initial review group actions on competing, research, and training grant applications were prepared during each review cycle.

The NIH/Grantee Institution Interface System provided grantee institutions with current information on awards and pending applications in standard hard-copy formats or magnetic tapes in exchange for feedback to NIH concerning the accuracy of information.

A series of tabulation of research and development contracts was provided to the Division of Contracts and Grants, Office of the Director, quarterly, semi-annually, and annually for inclusion in reports to the Department, showing data by Institute, type of contractor, type of contract, competitive versus noncompetitive contracts, dollar-award intervals, small businesses, women-owned business organizations, and other variables.

As in previous years, data on NIH extramural activities were transmitted to the National Academy of Sciences. These included IMPAC records on grant applications and awards and contracts to update the Consolidated Grant Applicant File. The Academy was also provided detailed information from each training appointment and fellowship award to update its roster of the individuals supported by NIH training programs.

The Section devoted considerable effort toward completing three annual, Government-wide surveys of research and development. The National Science Foundation survey, entitled "Federal Funds for Research, Development, and other Scientific Activities," covered all NIH intramural and extramural research activities for the past fiscal year together with the estimated obligations for the next two

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fiscal years, by performer, field of science, geographic area, basic and applied research and development, and combinations of the above. In connection with its responsibilities for preparing this survey, the Section is responsible for a system that collects, stores, and reports NIH obligations for basic and applied research and development starting with Fiscal Year 1982. In addition to facilitating consistent and timely reporting, this new system greatly reduced the amount of effort required of the Institutes by providing an option to code only new or competing awards. The annual survey by DHHS of obligations to institutions of higher education and other nonprofit organizations (known also as the CASE report) required summaries of all NIH extramural support, by activity, for individual institutions and health professional schools. The Section also prepared the NIH response to NIH's own annual survey of obligations for medical and health-related research covering intramural and extramural research and development obligations by field of science, performer, program, and state.

The Section published the annual "Brown Book" series of NIH extramural awards for Fiscal Year 1983, consisting of three separate volumes on (1) research grants, (2) training, construction, cancer control, and medical library grants, and (3) research and development contracts. The Section cooperated with the staff of the Office of the Director, NIH, in compiling data on extramural activities for the annual publication entitled Basic Data Relating to the National Institutes of Health. An analytically oriented chart

book, entitled NIH Extramural Trends, Fiscal Years 1972-1983, was prepared for internal use, along with a set of 35 mm color slides to enable these charts and related materials to be presented to various audiences. For the first time, all of the hard-copy charts and color slides were prepared within the Section, using computer graphics techniques. These new procedures have proved to be highly cost-effective. The Section compiled quarterly reports on NIH new grants and awards, and contributed to the Fogarty International Center's Statistical Reference Book of International Activities and the companion volume listing each international award. It also helped to prepare DRG publications on NIH fellowship awards for fiscal years 1981 and 1982.

Since May 1980, a series of recurring reports has provided information on competing applications reviewed and recommended for approval, together with various statistical measures of priority score distributions, such as means, medians, standard deviations, and lowest and highest scores for each study section. These reports were designed to provide information enabling Institutes to evaluate and use actual (raw) priority scores for decisions formerly based on normalized priority scores.

In order to further help the Institutes that have relied on normalized priority scores, the Section, in cooperation with the National Heart, Lung, and Blood Institute, has operated a system for ranking grant applications on a comparable basis, using percentile distributions of actual

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priority scores. These ranks are stored in the IMPAC system for each competing application to facilitate preparing paylists and other reports to Councils. Percentiles can be shown on summary statements when desired, using a system developed in 1983. Six Institutes regularly use output from this system. Prior to each Council meeting, a variety of computer-generated charts were distributed to the Institutes and DRG administrative staff to facilitate comparisons of priority scores and recommendation rates for the various study sections.

The Section also served as the authoritative source for information on the workload of DRG study sections. Several weeks after the cutoff dates for receipt of applications for review cycles, statistical tabulations were prepared showing the volume of applications to be reviewed by each study section and Institute, the type of grant or activity, and, for primary and secondary Institutes, amended applications and requested dollar values for applications. Following the completion of each review cycle, special summaries of study section actions were provided to assist in managing and monitoring their activities.

The Section worked closely with staff in the Office of the Director, NIH, in developing reports on NRSA fellowships and indirect trainees. These reports present the data along two axes: one, scientific discipline, is a group of new lexicon DSF codes; the other, program area, is a grouping of codes unique to each Institute.

### Systems Support and Development

The Section maintained the Institution Profile File (IPF), which is the central registry of names, locations, and other selected data for organizations participating in PHS extramural programs. This file assured uniform reporting and eliminated the necessity for storing similar information in individual grant and award files. Approximately 1,000 new records were added to the IPF, along with more than 20,000 item updates. The IPF now contains about 30,000 records.

The Section has developed new command procedures for running recurring reports and documenting procedures and resources. This development has resulted in a management assistant running the IPF recurring listings and microfiche used as reference sources for the Data Capture and the IPF Units. This improvement has eliminated requesting a computer programmer to provide this report and other reports, such as ranking tables of institutions. Future expansions of these procedures will include editing programs and other recurring reports.

The PHS Grants Data System was supplied monthly magnetic tapes of all grant records contained in the IMPAC system and the IPF codes for institutions newly recorded in the grants data system. This support facilitates consistent and accurate PHS-wide reporting.

The Section continued to develop and maintain the index of major components and departments for institutions of higher education. This index and

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the related computer program ensured consistent coding of applications and awards for medical schools, departments, and other components. During Fiscal Year 1983, approximately 180 new department codes were added to the index, along with approximately 7,500 item updates. The index now contains information on about 2,200 institutions of higher education, approximately 17,000 major components and departments, and about 3,200 reference lines for internal use.

The Section maintains reference manuals on the procedures for the IPF and the major component and department index. These manuals provide the first complete documentation on how IPF records and codes for departments and major components of Institutions of higher education are researched, established, and maintained.

As in previous years, this Section was responsible for creating and maintaining a special set of fiscal year publication files, which serve as authoritative sources of data to determine trends or year-to-year changes in the amounts and distribution of NIH extramural awards. A special subset of these files contains data needed for NIH reports on basic and applied research and development. The Section interacted extensively with staff in the Institutes and Office of Program Planning and Evaluation, Office of the Director, concerning these data.

In response to the large number of requests for reports that compare or rank institutions by such factors as dollars awarded or other success-related

statistics, the Section has greatly expanded its capacity to provide such statistics in a consistent and usable manner. Included is a standardized procedure for providing each institution with a table showing 12 year trends and ranking for numbers of competing research project applications, approval and success rates, and priority scores. Trend data are available based on either the number of applications or dollars requested. In addition, corresponding NIH profiles are available, which permit comparison to such statistics as the average, high, low, and median institution statistics.

### Retrieval Training

The Section has long been responsible for assisting Institute staff in developing and applying systems and programming techniques that would facilitate use of the IMPAC system. A senior computer specialist is available and responsible for providing these services on a full-time basis. During the year, basic courses on how to use the Inquiry and Reporting system were offered.

### Computer Graphics

Capabilities were greatly expanded during this past year. An interface with the computer system at the Applied Physics Laboratory, Johns Hopkins University, was developed; and, as a result, all the slides pertaining to the NIH Extramural Trends booklet, as well as those needed by various NIH officials for other presentations, were prepared in-house. The acquisition of an unrestricted tele-

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phone line, along with design and development of computer procedures, permitted direct access to the Laboratory's system to run jobs. Procedures were also developed to improve the color quality of the slides. The Section continued to prepare graphs showing projections for competing research project applications for use at meetings with the Office of Extramural Research and Training, Institute Directors, and the Division of Financial Management. A series of graphs were prepared, showing differences between, the standard model and the Institutes' projections of competing research project applications. Graphs showing trends in workload were prepared for the Referral and Review Branch, DRG. The Section provided advice and assistance in developing computer graphics to the Institutes and other agency personnel.

A series of computer-generated graphs were developed this year, showing trends in priority score distributions by type for each study section and also for each Institute. Several graphs containing comparable data were developed for use by an NIH Priority Score Work Group.

A new improved version of the plots that are used by the Deputy Director, NIH, and the Division of Financial Management to evaluate budget projections was designed this year, showing for each Institute and type of application: the number of applications reviewed and recommended for approval and the approval rate; the average direct costs requested and recommended for approval; the indirect cost factor, renewal base, and renewal factor; and the average total cost and total costs

recommended for approval.

The senior computer specialist who is responsible for leading the above efforts in the Section continued to participate in professional activities, such as the meetings of the National Computer Graphics Association and Computer Graphics User's Group and the ISSCO Conference, to remain current with the rapidly changing state-of-the-art in computer graphics.









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